

SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800

Rev. 3/15/2004 This is an experimental format -- Please give suggestions or comments to Jeff Harrison, JEF-4B68, 272-2511.

Date 12/16/05 Serial # 10/80/475 Priority Application Date 3/16/04
 Your Name M. Lewis Examiner # _____
 AU 2822 Phone 272-1838 Room 5A30
 In what format would you like your results? Paper is the default. PAPER DISK EMAIL

If submitting more than one search, please prioritize in order of need.

Need before 12/23

The EIC searcher normally will contact you before beginning a prior art search. If you would like to sit with a searcher for an interactive search, please notify one of the searchers.

Where have you searched so far on this case?

Circle: USPT DWPI EPO Abs JPO Abs IBM TDB

Other: _____

What relevant art have you found so far? Please attach pertinent citations or Information Disclosure Statements. _____

What types of references would you like? Please checkmark:

Primary Refs ☒ Nonpatent Literature _____ Other _____
 Secondary Refs ☒ Foreign Patents _____
 Teaching Refs ☐

What is the topic, such as the **novelty**, motivation, utility, or other specific facets defining the desired **focus** of this search? Please include the concepts, synonyms, keywords, acronyms, registry numbers, definitions, structures, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract and pertinent claims.

Claims 1-14

Problem: See paragraph 4
Solution: " " " " " "

Heat Dissipation

2005/0035457
5905289
6995697

SEARCHER INFO

Searcher: Michael L. Chinn

Searcher Phone: 571-972-3419

Searcher Location: STIC-EIC2800, JEF-4B68

Date Searcher Picked Up: 12/23/05

Date Completed: 12/23/05

Searcher Prep/Rev Time: 214

Online Time: 77

TYPE OF SEARCH

Structure (#) _____

Highly Specific ☒

Litigation _____

Fulltext _____

Patent Family _____

Other _____

SEARCH

STIC ☒

Division ☒

Questel/Orbit _____

Lexis-Nexis _____

WWW/Internet _____

Other _____

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[File 342] Derwent Patents Citation Indx 1978-05/200580

s pn=us 5905289

S1 1 S PN=US 5905289

map pn/ct=

SearchSave "SC229" stored
1 Select Statement, 1 Search Term(s)
SearchSave SC229

1 SearchSave(s), 1 Search Term(s)

map pn

SearchSave "SC230" stored
1 Select Statement, 9 Search Term(s)
SearchSave SC230

1 SearchSave(s), 9 Search Term(s)

[File 344] Chinese Patents Abs Aug 1985-2005/May

[File 347] JAPIO Nov 1976-2005/Jul(Updated 051102)

[File 350] Derwent WPIX 1963-2005/UD,UM &UP=200582

Set	Items	Description
S1	4	PN=US 2002030224 + PN=US 2003199150 + PN=US 2004043591 + PN=US 5766803 + PN=US 6049134 + PN=US 6404025 + PN=US 6696359 + PN=US 6709974 + PN=WO 9747035

12/23/2005 12:13:23 PM

[File 342] Derwent Patents Citation Indx 1978-05/200580

s pn=us 6225697

S1 1 S PN=US 6225697

map pn/ct=

SearchSave "SC231" stored

1 Select Statement, 5 Search Term(s)

SearchSave SC231

1 SearchSave(s), 5 Search Term(s)

map pn

SearchSave "SC232" stored

3 Select Statements, 23 Search Term(s)

SearchSave SC232

1 SearchSave(s), 23 Search Term(s)

[File 344] Chinese Patents Abs Aug 1985-2005/May**[File 347] JAPIO Nov 1976-2005/Jul(Updated 051102)****[File 350] Derwent WPIX 1963-2005/UD,UM &UP=200582**

Set	Items	Description
S1	13	S1:S2 FROM 344, 347, 350
S2	13	S S1 AND PY<=2004
S3	0	S S2 AND (HEAT???? OR THERMAL?? OR TEMP OR TEMPERATURE OR ENERGY) (3N) (REDUC???? OR DISSIPAT???? OR ESCAP???? OR LOSS??? OR REMOV???? OR WITHDRAW???? OR ELIMINAT????)
S4	9	S S2 AND DUMMY

12/23/2005 3:30:43 PM

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[File 2] INSPEC 1898-2005/Dec W2
 [File 6] NTIS 1964-2005/Dec W2
 [File 8] Ei Compendex(R) 1970-2005/Dec W2
 [File 34] SciSearch(R) Cited Ref Sci 1990-2005/Dec W3
 [File 434] SciSearch(R) Cited Ref Sci 1974-1989/Dec
 [File 35] Dissertation Abs Online 1861-2005/Nov
 [File 65] Inside Conferences 1993-2005/Dec W3
 [File 94] JICST-EPlus 1985-2005/Oct W3
 [File 99] Wilson Appl. Sci & Tech Abs 1983-2005/Oct
 [File 144] Pascal 1973-2005/Dec W2
 [File 23] CSA Technology Research Database 1963-2005/Dec
 [File 103] Energy SciTec 1974-2005/Nov B1
 [File 31] World Surface Coatings Abs 1976-2005/Dec
 [File 95] TEME-Technology & Management 1989-2005/Nov W2
 [File 68] Solid State & Superconductivity Abstracts 1966-2005/Dec
 [File 60] ANTE: Abstracts in New Tech & ENGINEER 1966-2005/NOV
 [File 293] Engineered Materials Abstracts 1966-2005/Dec
 [File 239] Mathsci 1940-2005/Jan
 [File 256] TecInfoSource 82-2005/Feb

Set	Items	Description
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S1	4147900	S SEMICONDUCTOR? ? OR SEMI()CONDUCTOR? ? OR PCB? ? OR TAB? ? OR PRINT????()CIRCUIT()BOARD? ? OR CIRCUIT????()BOARD? ? OR LOAD()BOARD? ? OR LOADBOARD? ? OR LSI? ? OR ASIC? ? OR ELECTRON????()DEVICE? ? OR PRINT????()CIRCUIT??? OR IC? ? OR INTEGRAT????()CIRCUIT??? OR CHIP? ? OR WAFER???
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S2	14768966	S SUBSTRATE? ? OR MATERIAL? ? OR STRATUM? ? OR SUPPORT???? OR INSULAT??? OR CERAMIC? ? OR PLASTIC????? OR GLASS??
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S3	1030233	S (METALLURG?????? OR METALWORK???? OR METAL()WORK???? OR METAL????? OR MATERIAL????) (3N) (LAYER????? OR FILM????? OR COAT????? OR SHEET????? OR DEPOSIT????? OR LAMINA??????? OR OVERLAY????? OR OVERLAY????? OR STACK????? OR MULTILAYER??????? OR PLURALIT??????)
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S4	148167	S (CONDUCT????? OR COPPER? ? OR ALUMINUM OR ALUMINIUM) (3N) (LINE? ? OR LEAD? ? OR WIRE? ? OR WIRING OR FLEX????)
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S5	752469	S (DUMM????? OR VIRTUAL????? OR REPLICA??????? OR DUPLICATE????? OR MODEL????? OR COPI??? OR COPY????? OR SUBSTITUT????? OR CLON????? OR FACSIMILE? ? OR REPRO??????? OR ACTUAL????? OR REAL OR ORIGINAL????) (3N) (STRUCTURE? ? OR RECTANG????? OR POLYGON????? OR CUBE? ? OR CUBIC????? OR SPHER????? OR PYRAMID????? OR CONE? ? OR CONIC????? OR SQUAR????? OR ORTHOGONAL????? OR METAL????? OR CONDUCT?????) OR (REGULAR??? OR IRREGULAR???) ()SHAPE???
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S6	214411	S (DIELECTRIC OR INSULAT????? OR NONCONDUCT????? OR NON()CONDUCT?????) (3N) (LAYER????? OR FILM????? OR COAT????? OR SHEET????? OR DEPOSIT????? OR LAMINA??????? OR OVERLAY????? OR OVERLAY????? OR STACK????? OR MULTILAYER??????? OR PLURALIT??????)
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S8	458029	S (HEAT????? OR THERM??????? OR TEMP OR TEMPERATURE? ?) (3N) (REDUC????? OR DISSIPAT????? OR ESCAP????? OR LOSS??? OR REMOV????? OR WITHDRAW????? OR ELIMINATE????? OR RELEASE?????)
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S11	784137	S (DIFFEREN????? OR DISSIMILAR????? OR CLASH????? OR CONTRAST????? OR MISMATCH????? OR DISTINCT????? OR SEPARAT?????) (3N) (MATERIAL????? OR COMPOSITION? ? OR COMPONENT? ? OR CONSTITUENT? ? OR ELEMENT? ? OR MATTER? ? OR SUBSTANCE? ? OR STRUCTURE? ?)
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S12	27	S S1 AND S2 AND S3 AND S4 AND S5
S13	2	S S12 AND S8
S14	0	S S1 AND S8 AND S5 AND S11 AND S4
S15	732	S S1 AND S8 AND S5
S16	36	S S15 AND S3
S17	2	S S16 AND S7
S18	925	S S1 AND S8 AND S7
S19	18	S S18 AND S5

10/801475

12/23/2005 3:30:43 PM

12/23/2005 4:04:27 PM

S20	0	S S19 AND S6
S21	0	S S19 AND S4
S22	13	S S19 AND S2
S23	12	S S22 AND PY<=2004
S24	9	RD (unique items)
S25	2256	S S1 AND S8 AND S3
S26	35	S S25 AND S4
S27	26	RD (unique items)
S28	5	S S27 AND S6
S29	4	S S28 AND PY<=2004
S30	2	S S17 NOT S13
S31	8	S S24 NOT (S13 OR S17)
S32	4	S S29 NOT (S13 OR S17 OR S24)

12/23/2005 4:36:17 PM

12/23/2005 5:03:12 PM

[File 344] Chinese Patents Abs Aug 1985-2005/May
 [File 347] JAPIO Nov 1976-2005/Jul(Updated 051102)
 [File 350] Derwent WPIX 1963-2005/UD,UM &UP=200582
 [File 371] French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	2038652	S SEMICONDUCTOR? ? OR SEMI()CONDUCTOR? ? OR PCB? ? OR TAB? ? OR PRINT????()CIRCUIT()BOARD? ? OR CIRCUIT???()BOARD? ? OR LOAD()BOARD? ? OR LOADBOARD? ? OR LSI? ? OR ASIC? ? OR ELECTRON???()DEVICE? ? OR PRINT???()CIRCUIT??? OR IC? ? OR INTEGRAT????()CIRCUIT??? OR CHIP? ? OR WAFER???
S2	6638683	S SUBSTRATE? ? OR MATERIAL? ? OR STRATUM OR SUPPORT OR INSULATOR OR CERAMIC OR PLASTIC OR GLASS??
S3	1046866	S (METALLURG??????? OR METALWORK???? OR METAL()WORK???? OR METAL????? OR MATERIAL????) (3N) (LAYER????? OR FILM????? OR COAT????? OR SHEET????? OR DEPOSIT????? OR LAMINA??????? OR OVERLAY????? OR OVERLAY????? OR STACK????? OR MULTILAYER??????? OR PLURALIT???????)
S4	123398	S (CONDUCT????? OR COPPER? ? OR ALUMINUM OR ALUMINIUM) (3N) (LINE? ? OR LEAD? ? OR WIRE? ? OR WIRING OR FLEX????)
S5	34342	S (DUMM????? OR VIRTUAL????? OR REPLICA??????? OR DUPLICATE????? OR MODEL????? OR COPI??? OR COPY????? OR SUBSTITUT????? OR CLON????? OR FACSIMILE? ? OR REPRO????????? OR ACTUAL????? OR REAL OR ORIGINAL????) (3N) (STRUCTURE? ? OR RECTANG????? OR POLYGON????? OR CUBE? ? OR CUBIC????? OR SPHER????? OR PYRAMID????? OR CONE? ? OR CONIC????? OR SQUAR????? OR ORTHOGONAL????? OR METAL????? OR CONDUCT?????) OR (REGULAR??? OR IRREGULAR???) () SHAPE???
S6	435502	S (DIELECTRIC OR INSULAT????? OR NONCONDUCT????? OR NON()CONDUCT??????) (3N) (LAYER????? OR FILM????? OR COAT????? OR SHEET????? OR DEPOSIT????? OR LAMINA??????? OR OVERLAY????? OR OVERLAY????? OR STACK????? OR MULTILAYER??????? OR PLURALIT???????)
S7	241014	S (DIFFEREN????? OR DISSIMILAR????? OR CLASH????? OR CONTRAST????? OR MISMATCH????? OR DISTINCT????? OR SEPARAT?????) (3N) (MATERIAL????? OR COMPOSITION? ? OR COMPONENT? ? OR CONSTITUENT? ? OR ELEMENT? ? OR MATTER? ? OR SUBSTANCE? ? OR STRUCTURE? ?)
S8	279872	S (HEAT????? OR THERM??????? OR TEMP OR TEMPERATURE? ?) (3N) (REDUC????? OR DISSIPAT????? OR ESCAP????? OR LOSS??? OR REMOV????? OR WITHDRAW????? OR ELIMINATE????? OR RELEASE?????)
S9	18328	S IC=(H01L-021/44 OR H01L-023/52)
S10	15534	S MC=(U11-D01C6 OR U11-D03B OR U13-D02)
S11	1	S S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8
S12	26	S S1 AND S3 AND S5 AND S8
S13	2	S S12 AND S7
S14	13	S S12 AND S6
S15	13	S S14 AND S3
S16	3	S S15 AND S9
S17	1	S S15 AND S10
S18	778	S S1 AND S7 AND S8
S19	3	S S18 AND S5
S20	240	S S1 AND S2 AND S3 AND S4 AND S8
S21	29	S S20 AND S9
S22	23	S S21 AND PY<=2004
S23	23	IDPAT (sorted in duplicate/non-duplicate order)
S24	23	IDPAT (primary/non-duplicate records only)
S25	2	S S18 AND S9 AND S10
S26	1	S S13 NOT S11
S27	2	S S16 NOT (S11 OR S13)
S28	0	S S17 NOT (S11 OR S13 OR S16)
S29	1	S S19 NOT (S11 OR S13 OR S16 OR S17)
S30	1	S S25 NOT (S11 OR S13 OR S16 OR S17 OR S19)
S31	23	S S24 NOT (S11 OR S13 OR S16 OR S17 OR S19 OR S25)

12/23/05

10/801475

(FILE 'HOME' ENTERED AT 11:05:04 ON 27 DEC 2005)

FILE 'STNGUIDE' ENTERED AT 11:05:16 ON 27 DEC 2005

FILE 'CAPLUS' ENTERED AT 11:08:43 ON 27 DEC 2005

L1 710119 SEA ABB=ON PLU=ON SEMICONDUCTOR OR SEMI CONDUCTOR OR IC OR
INTEGRATED CIRCUIT OR LSI OR CHIP OR WAFER####
L2 2376 SEA ABB=ON PLU=ON L1 AND DUMM#####
L3 14 SEA ABB=ON PLU=ON L2 AND ((DIFFEREN##### OR DISSIMILAR OR
DISTINCT#####) (3A) (MATERIAL OR COMPOSITION### OR COMPONENT OR
ELEMENT OR MATTER OR SUBSTANCE))
L4 0 SEA ABB=ON PLU=ON L3 AND (HEAT##### OR THERM##### OR
TEMP#####) (3A) (REMOV##### OR DISSIPAT##### OR ELIMINAT#### OR
REDUC##### OR LOSS##### OR ESCAP##### OR WITHDRAW##### OR
RELEAS#####)
L5 10246 SEA ABB=ON PLU=ON L1 AND (HEAT##### OR THERM##### OR
TEMP#####) (3A) (REMOV##### OR DISSIPAT##### OR ELIMINAT#### OR
REDUC##### OR LOSS##### OR ESCAP##### OR WITHDRAW##### OR
RELEAS#####)
L6 43 SEA ABB=ON PLU=ON L5 AND DUMM#####
L7 0 SEA ABB=ON PLU=ON L6 AND ((DIFFEREN##### OR DISSIMILAR OR
DISTINCT#####) (3A) (MATERIAL OR COMPOSITION### OR COMPONENT OR
ELEMENT OR MATTER OR SUBSTANCE))
L8 1 SEA ABB=ON PLU=ON L6 AND METALLURG#####
L9 21 SEA ABB=ON PLU=ON L6 AND (LAYER#### OR MULTILAYER##### OR
MULTI LAYER####)
L10 8 SEA ABB=ON PLU=ON L9 AND (COPPER OR CU OR ALUMINIUM OR
ALUMINUM OR AL)
L11 4 SEA ABB=ON PLU=ON L10 AND DIELECTRIC####
DIS L10 1-8 IBIB ABS
FILE 'STNGUIDE' ENTERED AT 11:24:13 ON 27 DEC 2005

----- 12/27/2005 10/801,475

FILE 'HCAPLUS, WPIX, INSPEC, JICST-EPLUS, JAPIO' ENTERED AT 12:50:11 ON
27 DEC 2005

L1 45869 SEA ABB=ON PLU=ON (DISSIMILAR OR TWO OR DIFFERENT) (W) (MATERIA
LS OR METALS)

L2 392291 SEA ABB=ON PLU=ON HEATSINK#### OR HEATSPREAD#### OR (HEAT##
OR THERMAL##) (1A) (SINK#### OR SPREAD#### OR DISSIPAT#### OR
REMOV#### OR CONDUCT####)

L3 1187 SEA ABB=ON PLU=ON L1 AND L2

L4 121 SEA ABB=ON PLU=ON L3 AND H01L/IC

L5 121 SEA ABB=ON PLU=ON L3 AND H01L?/IC

L6 23 SEA ABB=ON PLU=ON L3 AND (SEMICOND##### OR SI OR SILICON) (
2A) SUBSTRATE

L7 0 SEA ABB=ON PLU=ON L3 AND DUMM####

L8 45 SEA ABB=ON PLU=ON L3 AND STRUCTURES

L9 64 SEA ABB=ON PLU=ON L3 AND (LINES OR VIAS OR CONDUCTORS)

L10 61 SEA ABB=ON PLU=ON L3 AND METALLURG?

L11 425 SEA ABB=ON PLU=ON L3 AND (CU OR COPPER OR AL OR ALUMINUM OR
ALUMINIUM OR AL/CHI OR ALUMINUM/CN OR COPPER/CN)

L12 134 SEA ABB=ON PLU=ON (L5 OR L6)

L13 75 SEA ABB=ON PLU=ON L12 AND (L8 OR L9 OR L10 OR L11)

L14 5 SEA ABB=ON PLU=ON L13 AND (THERMAL## (3A) (CONTACT##### OR
INTERCONNECT#### OR CONNECT####))
D TI 1-5
D MAX 1-4
D ALL 5

L15 261 SEA ABB=ON PLU=ON L3 AND (CU OR COPPER OR COPPER/CN)

L16 283 SEA ABB=ON PLU=ON L3 AND (AL OR ALUMINUM OR ALUMINIUM OR
AL/CHI OR ALUMINUM/CN)

L17 119 SEA ABB=ON PLU=ON L15 AND L16

L18 117 SEA ABB=ON PLU=ON L17 NOT L14

L19 117 SEA ABB=ON PLU=ON (L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10
OR L11 OR L12 OR L13) AND L18

L20 37 SEA ABB=ON PLU=ON (L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR L10)
AND L18

L21 8 SEA ABB=ON PLU=ON L20 AND (?LAYERS OR FILMS OR ?LAYERED)

L22 13 SEA ABB=ON PLU=ON L20 AND (STRUCTURES OR MULTIL? OR MULTI OR
MULTIPLE OR LAMINA##### OR STACK? OR SANDWICH? OR LAYERS OR
FILMS OR LAYERED)

L23 13 SEA ABB=ON PLU=ON L21 OR L22